

PATENT ABSTRACTS OF JAPAN

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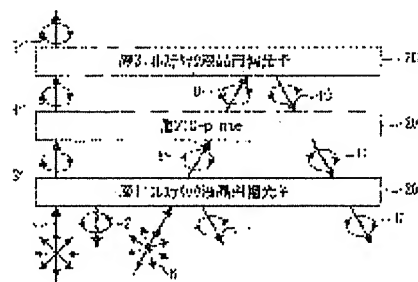
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(54) POLARIZING ELEMENT, POLARIZING LIGHT SOURCE AND PICTURE DISPLAY DEVICE USING THEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a polarizing element capable of efficiently reflecting obliquely transmitted light to a light source side without spoiling the transmitted polarizing characteristic of perpendicular incident light.

SOLUTION: A C plate whose oblique phase difference to light inclined at $\geq 30^\circ$ is $\geq \lambda/8$ is arranged between two or more layers of reflection circular polarizers where the selective reflection wavelength bands of polarized light are superposed each other. It is good to use the combination of a reflection linear polarizer and a $1/4$ wavelength plate instead of the reflection circular polarizer. In addition to that, the same effect is obtained even by the combination of two layers of reflection linear polarizers and two layers of $1/4$ wavelength plates ($N \geq 2$) arranged between them. Furthermore, it is also good to use the combination of two layers of reflection linear polarizers and the $1/2$ wavelength plate ($N \geq 1.5$) arranged between them. In the case of using the reflection linear polarizer, it must be stuck at a fixed angle in its axial direction. The polarizing element is desirably used for various picture display devices such as a liquid crystal display device and an organic EL display device.



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